DRAFT 9/9/2001

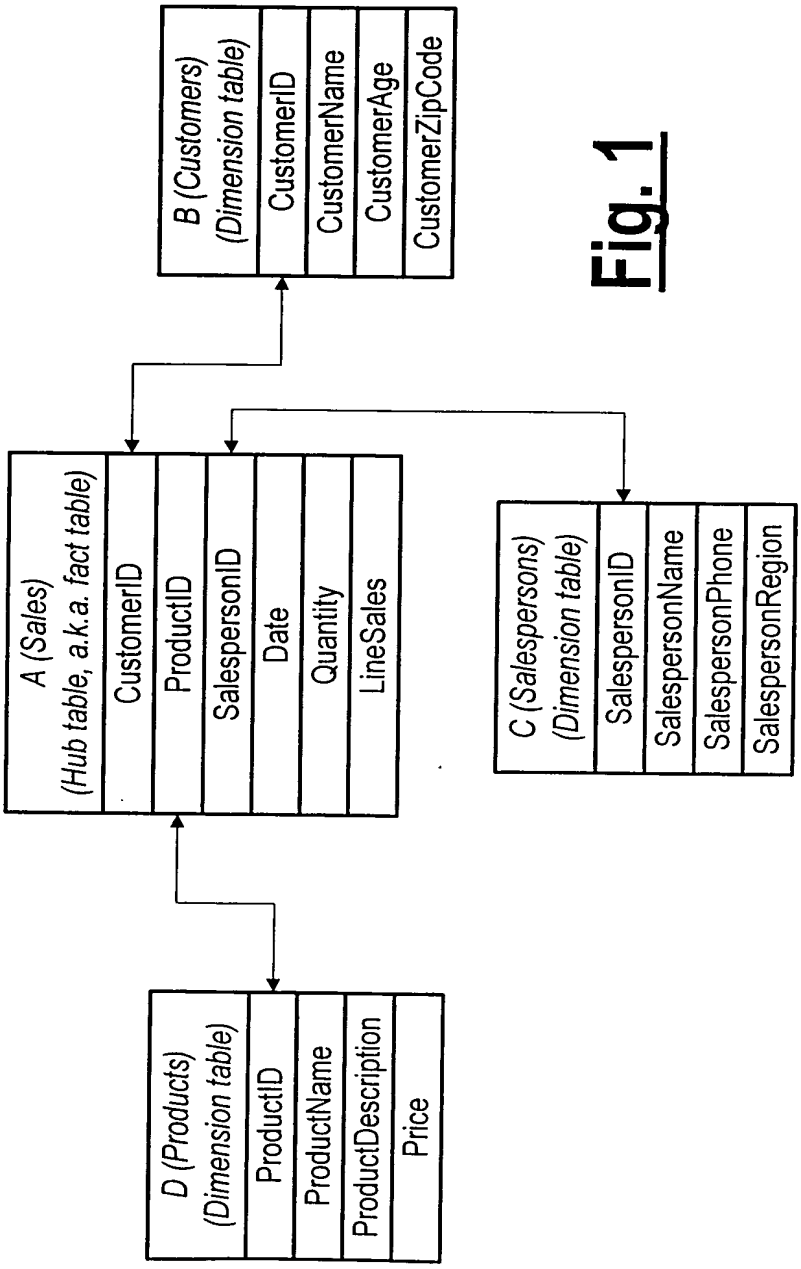

Fig. 1

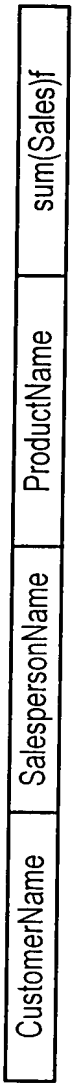

Fig. 2

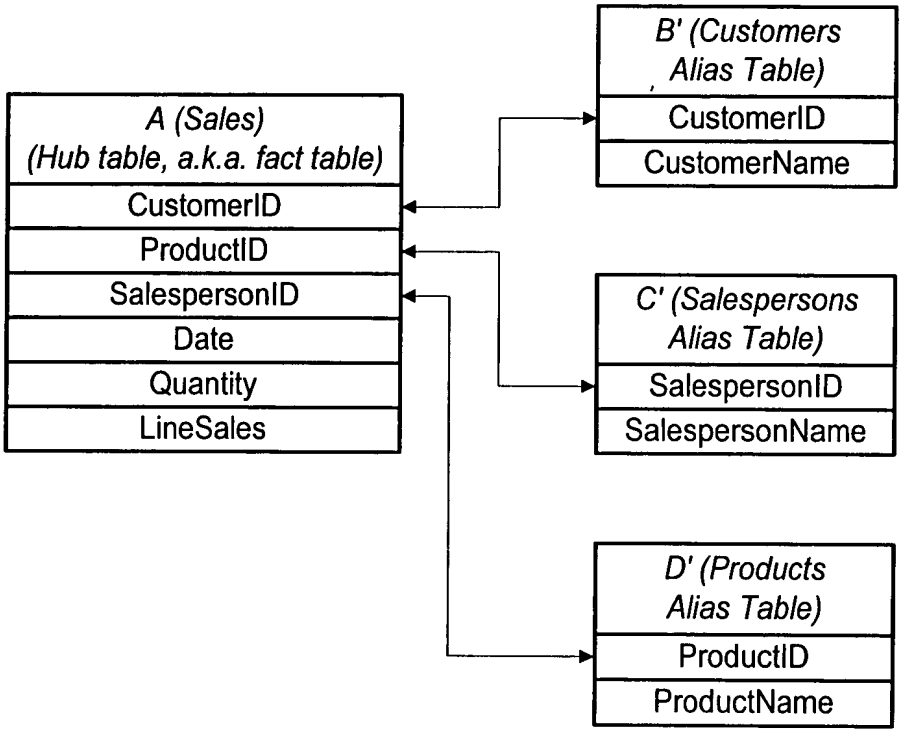
A (Sales)
(Hub table, a.k.a. fact table)
CustomerID
ProductID
SalespersonID
Date
Quantity
LineSales
B' (Customers Alias Table)
CustomerID
CustomerName
C' (Salespersons Alias Table)
SalespersonID
SalespersonName
D' (Products Alias Table)
ProductID
ProductName

Fig. 3

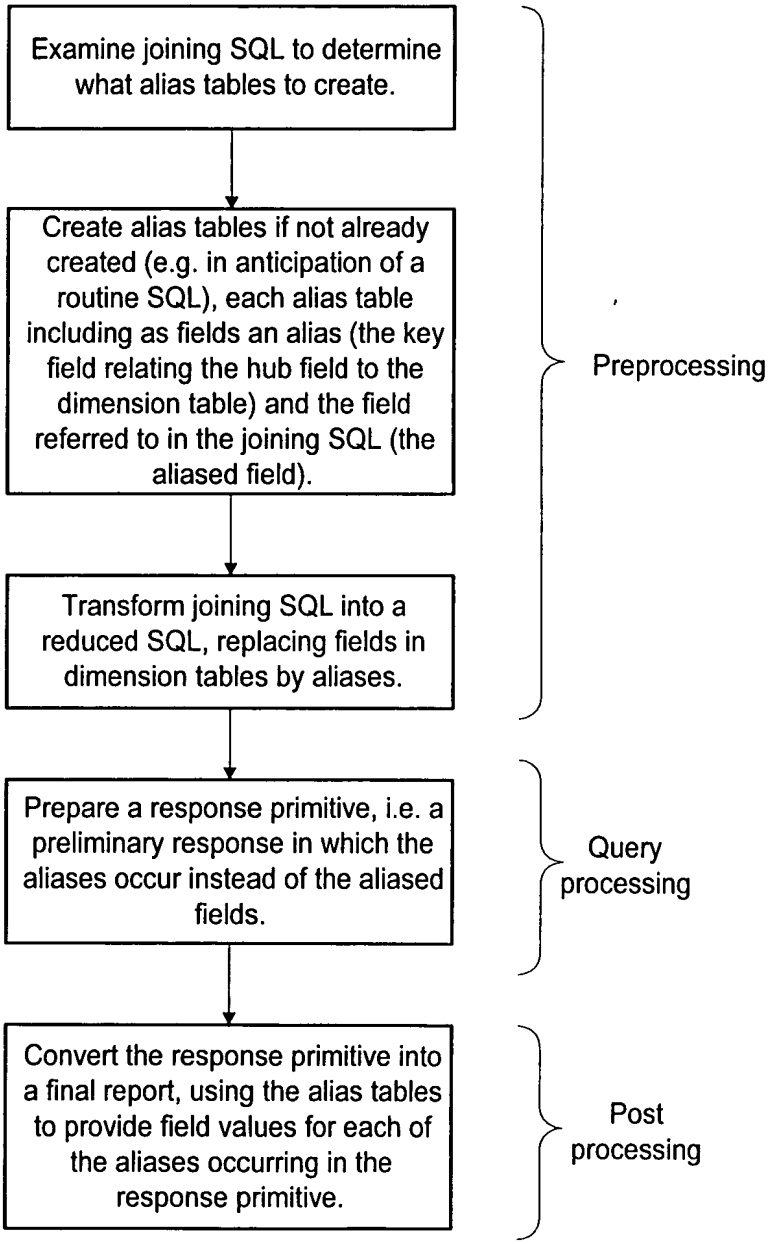
Examine joining SQL to determine what alias tables to create.
Create alias tables if not already created (e.g. in anticipation of a routine SQL), each alias table including as fields an alias (the key field relating the hub field to the dimension table) and the field referred to in the joining SQL (the aliased field).
Transform joining SQL into a reduced SQL, replacing fields in dimension tables by aliases.
Preprocessing
Prepare a response primitive, i.e. a preliminary response in which the aliases occur instead of the aliased fields.
Query processing
Convert the response primitive into a final report, using the alias tables to provide field values for each of the aliases occurring in the response primitive.
Post processing

Fig. 4

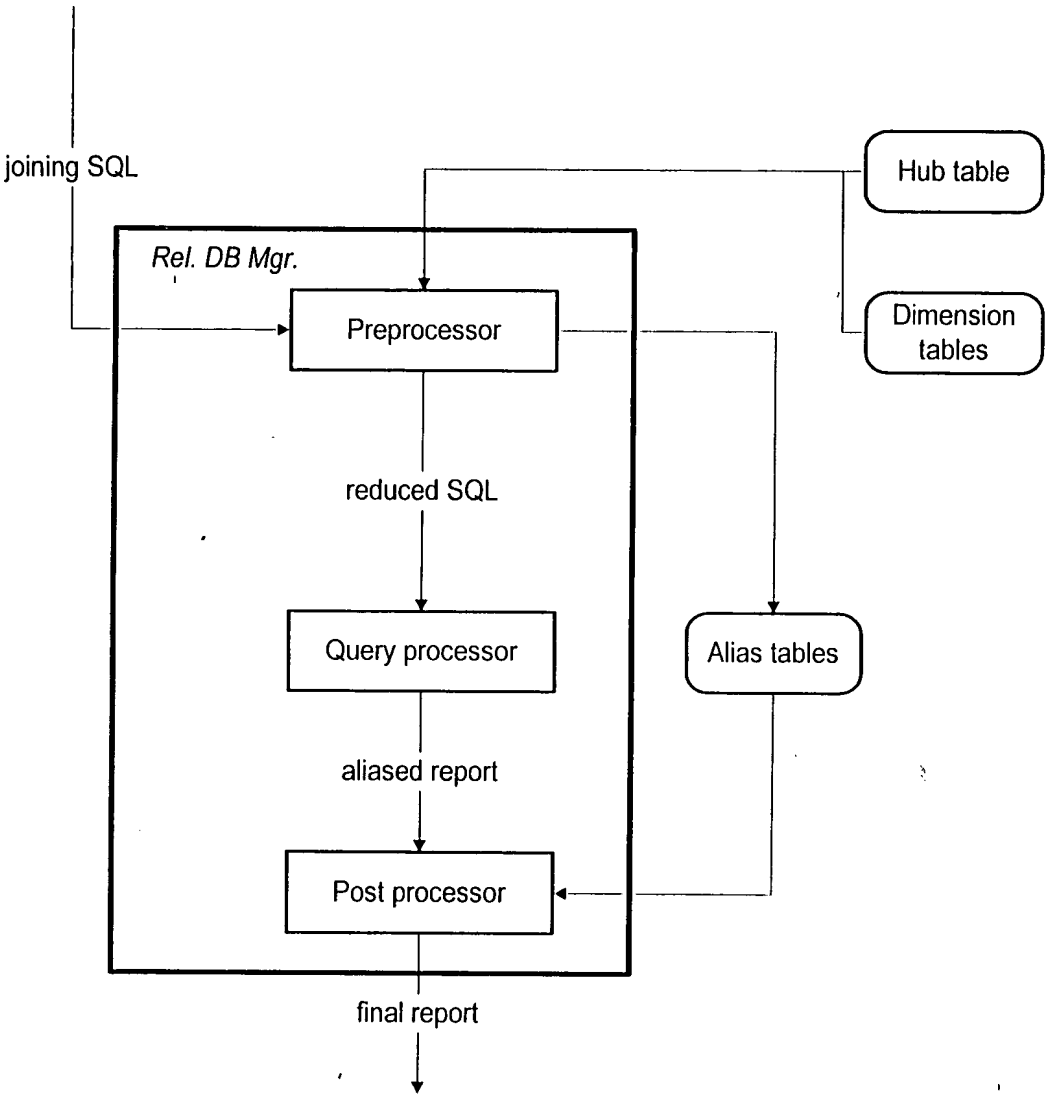
joining SQL
Hub table
Rel. DB Mgr.
Preprocessor
Dimension tables
reduced SQL
Query processor
Alias tables
aliased report
Post processor
final report

Fig. 5

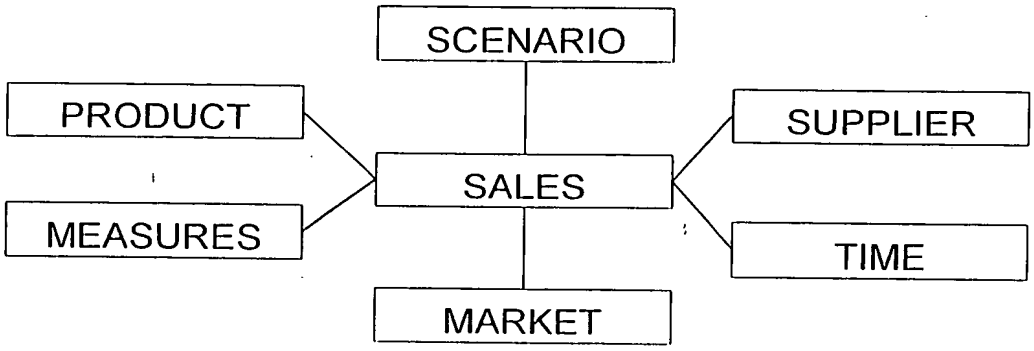
SCENARIO
PRODUCT
SUPPLIER
SALES
MEASURES
TIME
MARKET

Fig. 6

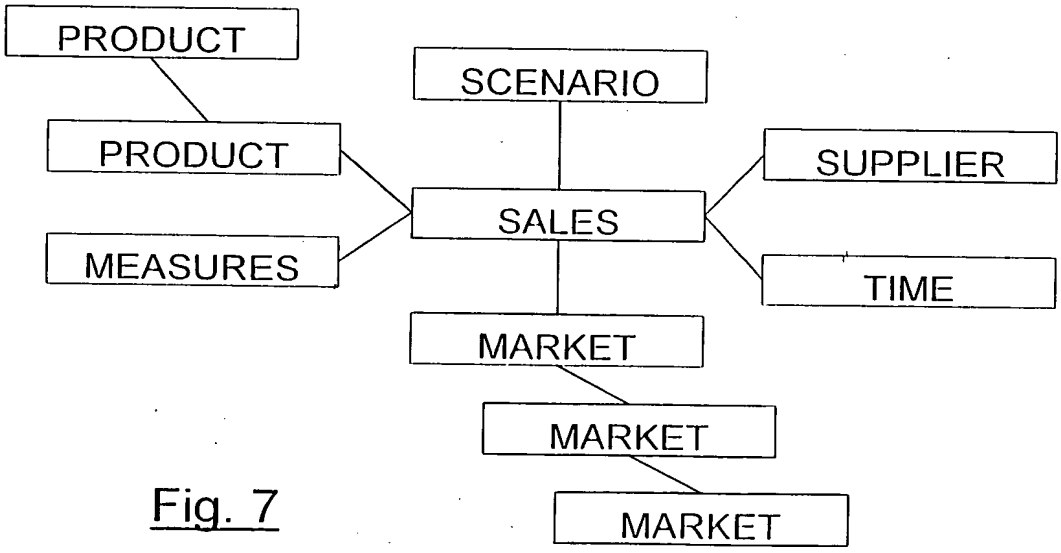
PRODUCT
SCENARIO
PRODUCT
SUPPLIER
SALES
MEASURES
TIME
MARKET
MARKET
MARKET

Fig. 7